CLAIMS

1. A method of forming a shadowgraph image of an object comprising forming the image as a virtual image on a virtual image plane.

2. A method of forming a shadowgraph image as claimed in claim 1 by illuminating the object with a collimated light beam from a localised light source to create a shadowgraph image on the virtual image plane.

3. A method as claimed in claim 1 or claim 2 wherein the virtual image plane is positioned behind the object.

4. A method as claimed in claim 1 or 2 wherein the virtual image plane is positioned in front of the object.

5. A method of forming a shadowgraph as claimed in any of claims 2 to 4 wherein a wedge prism is used to tilt the virtual image plane.

6. A method of forming a shadowgraph image as claimed in any of claims 2 to 5 wherein the light source is an LED.

7. A method as claimed in any of claims 2 to 6 wherein the light is collimated by a lens optical system.

8. A method as claimed in any of claims 2 to 6 wherein the light is collimated by a mirror optical system.

9. A method as claimed in any of claims 1 to 7 wherein the object is a glazing.

10. A method of determining the optical quality of a glazing which includes at least one area having a reduced light transmission comprising the following steps:

producing a shadowgraph image of the glazing as claimed in any of claims 1 to 9;

measuring the illumination of the glazing at a plurality of measurement points arranged in an array extending over the glazing;

determining any deviation in illumination at those points from a desired value at each point;

wherein the at least one area of reduced light transmission is omitted from the array of measurement points.

11. A method to determine the optical quality of a glazing comprising the following steps:

illuminating the glazing with a localized light source to produce a shadowgraph image as claimed in any of claims 1 to 9;

recording the shadowgraph image;

determining valid measurement points of the shadowgraph image which excludes those points which correspond to obscured areas of the glazing;

processing the recorded shadowgraph image to determine an illumination value for each valid measurement point;

constructing a reference image by scanning a convolution window point by point over the processed image and using a convolution filter to calculate a reference illumination value at points of the reference image which correspond to each point of the processed image by averaging the illumination values of the valid measurement points of the processed image covered by the convolution window;

comparing the illumination value of each valid measurement point of the processed shadowgraph image with corresponding points of the reference image to determine the optical quality of the glazing.

12. A method as claimed in claim 11 wherein the convolution window is of constant area during the scanning operation.

13. A method as claimed in claim 10 or claim 11 including the step of recording the reference image for comparison with the processed image.

14. A method as claimed in any of claims 11 to 13 wherein a valid measurement point is one in which the illumination value at that point is equal to or above a pre-set threshold.

15. A method as claimed in any of claims 11 to 14 wherein when the point of the convolution window for which the reference illumination is being calculated corresponds with a non-valid measurement point of the processed image, a reference illumination is not calculated.

16. A method as claimed in any of claims 11 to 14 wherein non-valid measurement points are not taken into account in the construction on the reference image.

17. A method as claimed in any of claims 11 to 16 wherein the same light source is used for the production of the shadowgraph image and in relation to calculating the reference image.

18. A method to determine the optical quality of a glazing as hereinbefore described with reference to and as illustrated in the drawings.